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(56) Documents Cited

US 3988009 A US 3892387 A US 3892056 A

(58) Field of Search

UK CL (Edition N) E1D DLCKM DLCKN DLEKMN
DLEKN
INT CL⁶ E04H

(54) **Paling fence**

(57) A fencing system comprising a series of vertical pales 2 with apertures 12 which are threaded onto rails 4 supported by fixed vertical posts, and secured to the rails by concealed bolts.

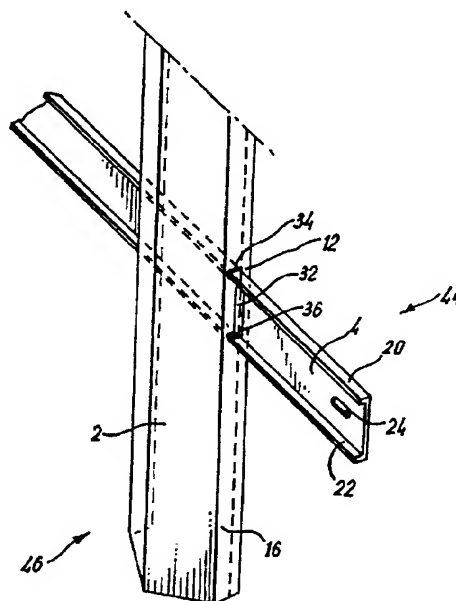


FIG. 4

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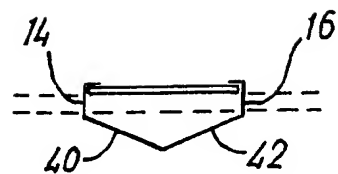
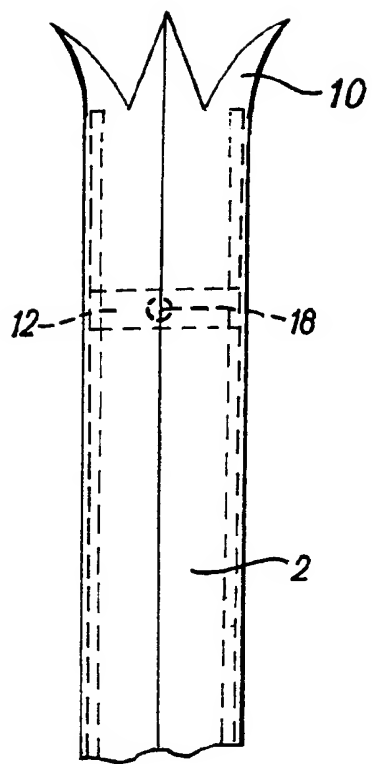


FIG. 1b

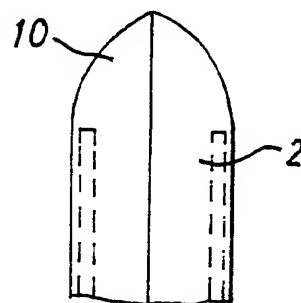


FIG. 1c

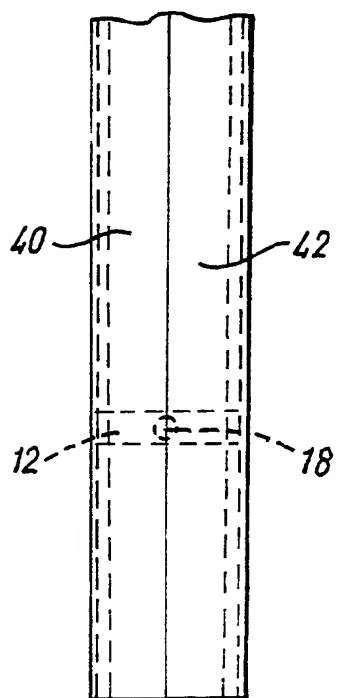


FIG. 1d

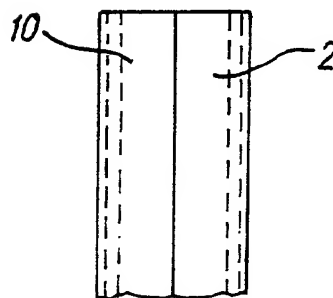


FIG. 1e

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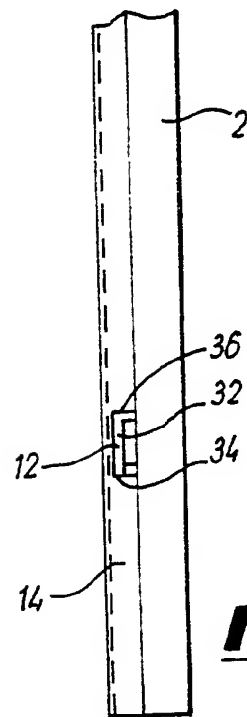
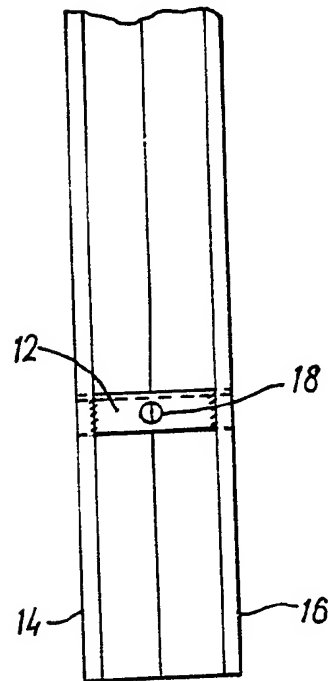
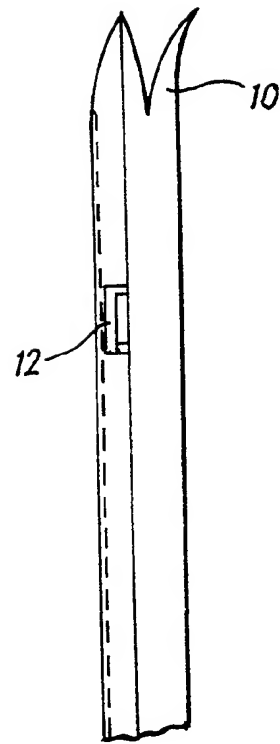
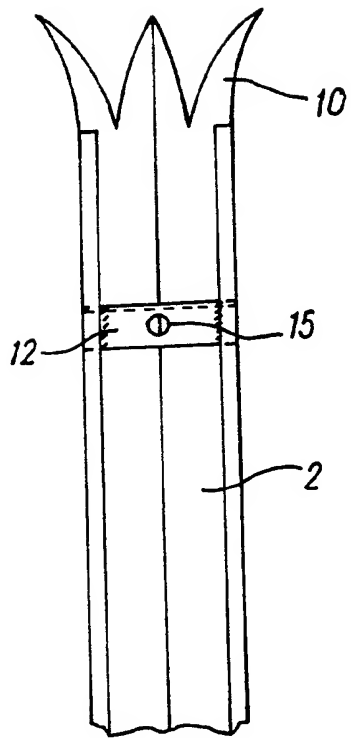


FIG. 2a

FIG. 3a

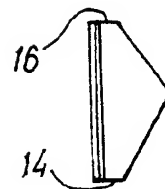


FIG. 2b

FIG. 3b

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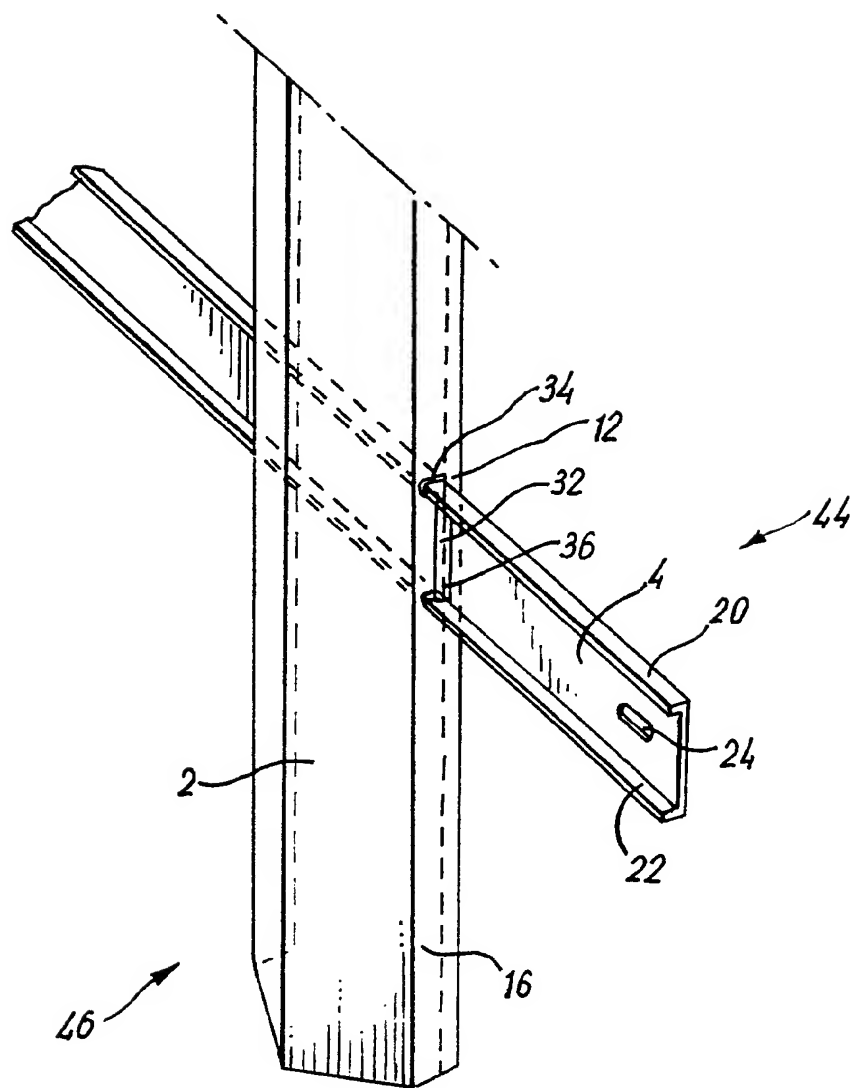


FIG. 4

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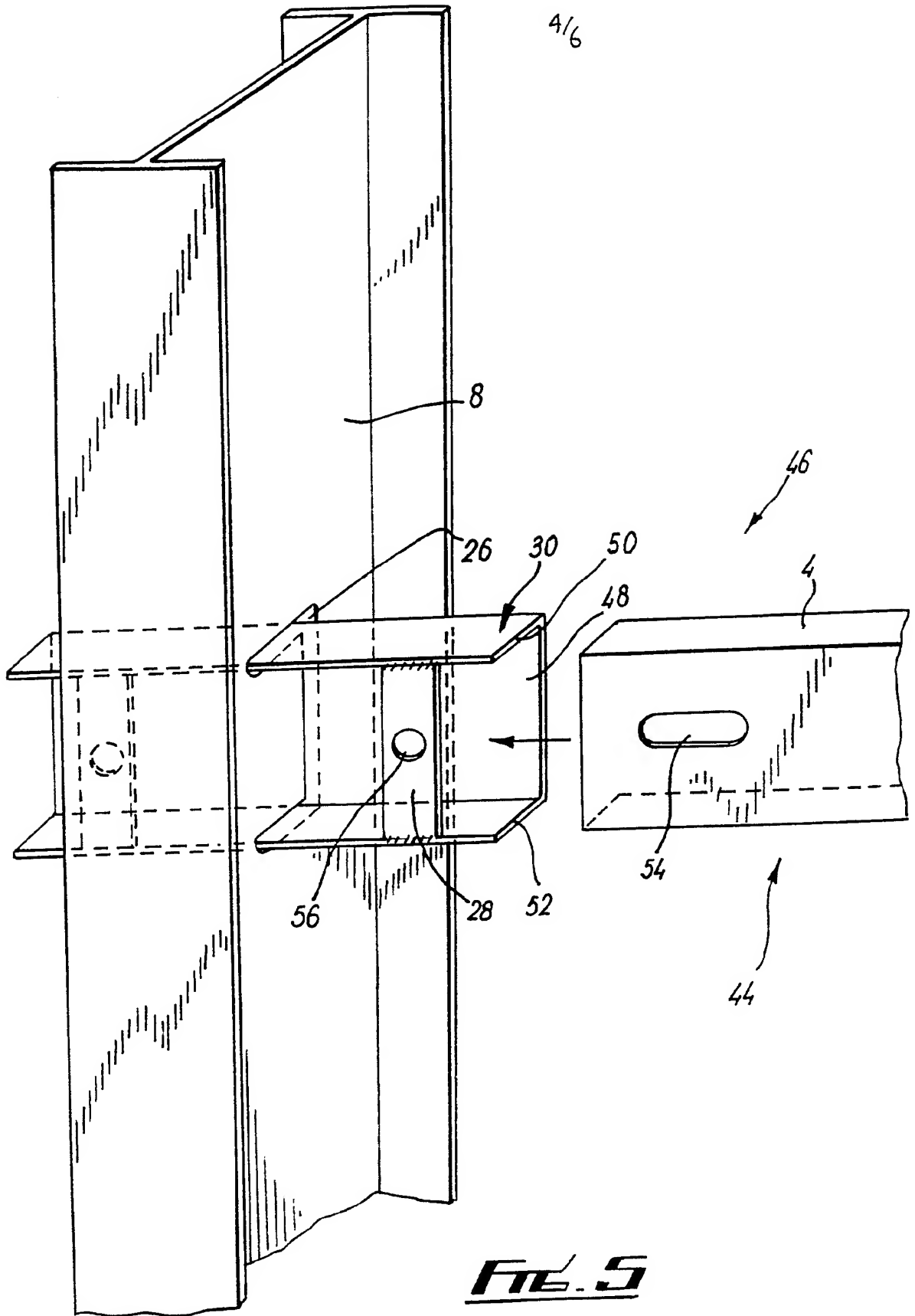
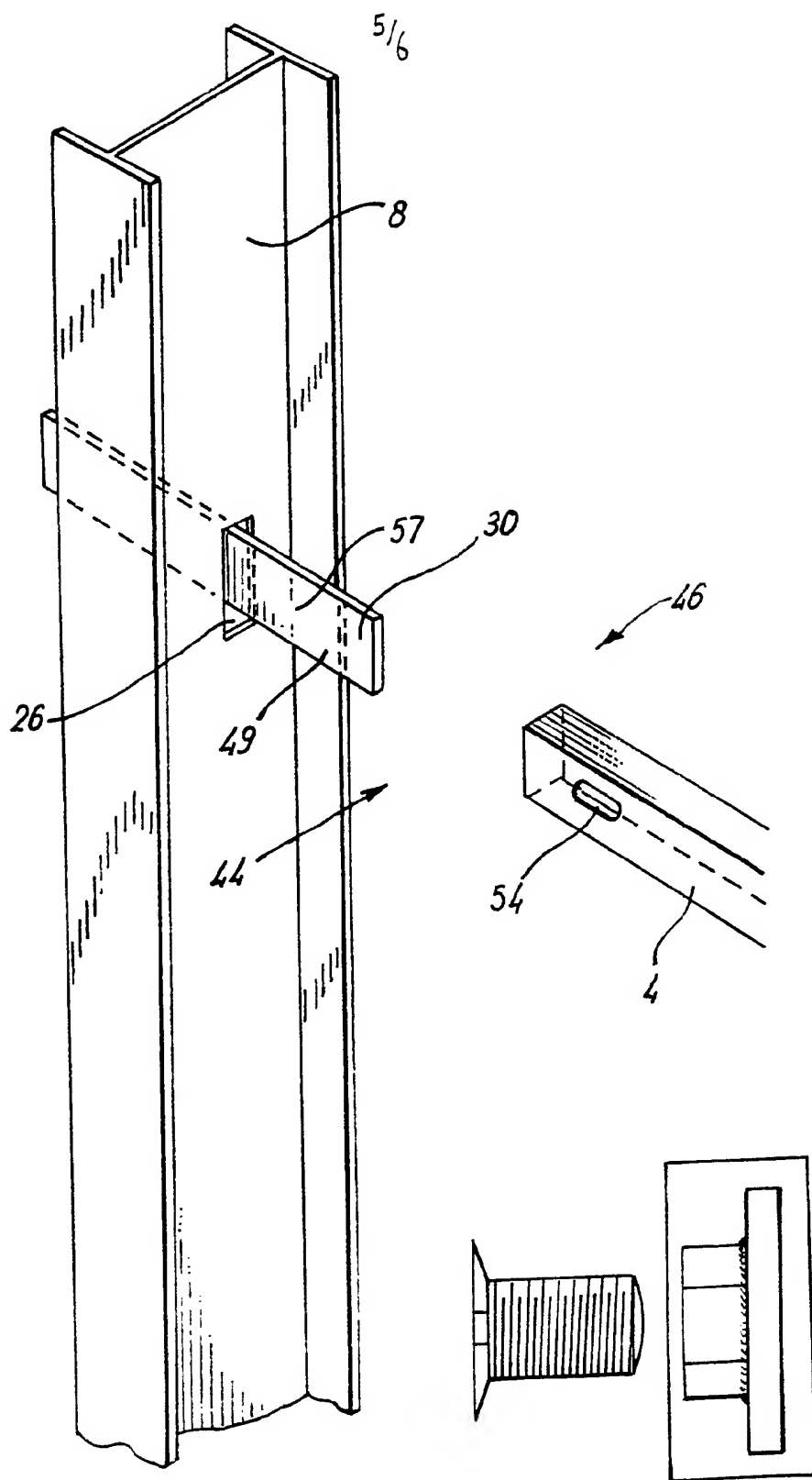


FIG. 5



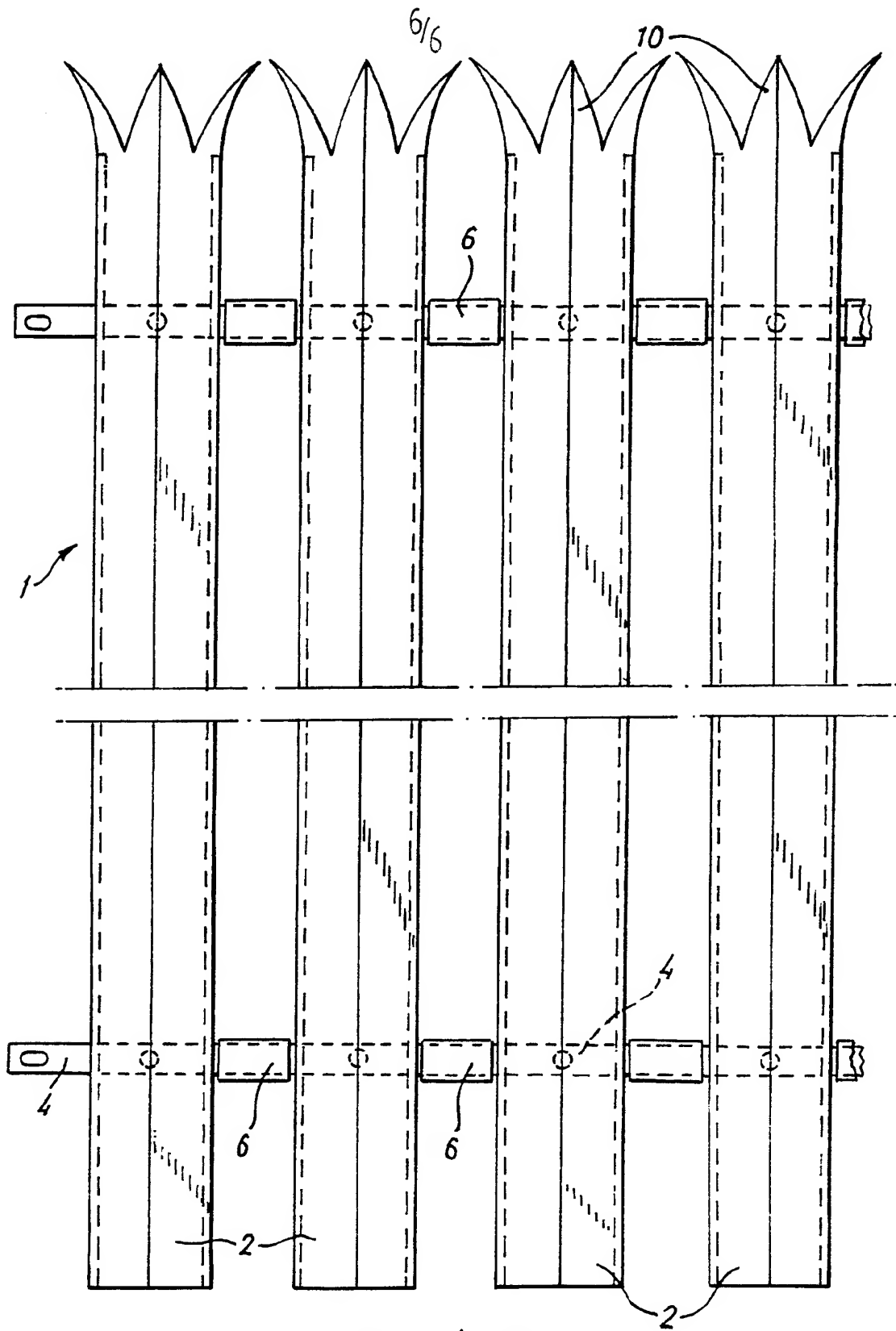


FIG. 7

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1 FENCING SYSTEM

2
3 This invention relates to a fencing system.

4
5 Fencing has been used for defence or protection since
6 man started forming boundaries, and many varieties are
7 in use today. One of the most successful of these is
8 the system known as palisade fencing. Types of fencing
9 being used at present all have similar inherent
10 disadvantages.

11
12 All palisade fencing is fitted the same way in that the
13 upright pales which make up the fence are bolted to the
14 outside face of angle rails. These rails are suspended
15 between posts and bolted to cleats passing through the
16 posts. All the bolts are conspicuous.

17
18 The problem with this system is that the upright pales
19 rely solely on the single bolt fixing on the top and
20 bottom rail to secure them in position, and the pales
21 can be manipulated by would-be intruders or vandals.
22 It is not unusual to see the upright pales of this type
23 of fencing disconnected at the bottom and moved to one
24 side to form a gap large enough for a person to squeeze
25 through. In other instances pales have been

1 disconnected and removed altogether, due either to
2 corrosion or vandalism.

3
4 According to the present invention there is provided a
5 fencing system comprising a plurality of pales and a
6 rail, each pale having an aperture through which the
7 rail passes.

8
9 Preferably there are two rails disposed at
10 approximately right angles to the pales. Preferably
11 the rails are supported by posts.

12
13 Preferably the aperture has two parallel slots joined
14 by an orthogonal slot.

15
16 Preferably each pale has two parallel sides. Each side
17 having corresponding apertures.

18
19 The pales may be positioned by securing means on the
20 rails. Spacer units may be provided between the pales,
21 the spacer units being located on the rails.

22
23 Preferably the rails are secured to a fixing unit, the
24 fixing unit being inserted through an aperture in the
25 post. Preferably the securement of the rails to the
26 post is from the rear of the fencing system.

27
28 Embodiments of the present invention will now be
29 described with reference to the accompanying drawings
30 in which:

31
32 Fig 1a is a front view of a pale of a fencing
33 system in accordance with the present invention;

34
35 Fig 1b is a plan of the pale of Fig 1a;
36

1 Fig 1c and Fig 1d are alternative tops to the pale
2 of Fig 1a;

3
4 Fig 2a and Fig 2b are rear and plan views of the
5 pale of Fig 1a;

6
7 Fig 3a and Fig 3b are side and plan views of the
8 pale of Fig 1a;

9
10 Fig 4 is a perspective, part transparent view of a
11 pale attached to a rail of a fencing system in
12 accordance with the present invention;

13
14 Fig 5 and Fig 6 are perspective, part transparent
15 views of alternative embodiments of a post and a
16 rail of a fencing system in accordance with the
17 present invention; and

18
19 Fig 7 is a front view of a fencing system in
20 accordance with the present invention.

21
22 Referring to the drawings a fencing system 1 has a
23 number of vertical pales 2. Each vertical pale 2 is
24 formed with an angled front formed of two flat
25 surfaces 40, 42. Each pale 2 has two parallel side
26 portions 14, 16 one attached to each of the flat front
27 surfaces 40, 42. The pales 2 may have spiked, rounded
28 or flat tops 10 or other styles of tops 10 which can be
29 changed for cosmetic reasons. The two parallel side
30 portions 14, 16 of the pales 2 each have adjacent
31 apertures 12. Each aperture 12 is formed with a main
32 slot 32 with two orthogonal slots 34, 36 at each end of
33 the main slot 32.

34
35 Two rails 4 are provided a top rail and a bottom rail
36 each of which pass through some of the apertures 12 in

1 the pales 2. A series of pales 2 are threaded onto the
2 rails 4.

3

4 A spacer unit 6 can be threaded onto the rails 4
5 between each pale 2 such that the pales 2 are equally
6 spaced apart and cannot be moved along the rails 4 once
7 in position. Alternatively, the pales 2 can be
8 arranged along the rails 4 such that a solid fence is
9 provided with each pale 2 touching its adjacent pale 2.

10

11

12 Bolt fixings 18 are provided to secure the pales 2 in
13 position on the rails 4. The bolt fixings 18 are
14 attached from the rear 44 of the fencing system 1 and
15 cannot therefore be seen from the front 46 of the
16 fencing system 1.

17

18 The rails 4 are attached to vertical posts 8 which are
19 secured onto or into the ground. Each post 8 is formed
20 in the shape of an I with its central portion having an
21 aperture 26 through which a fixing unit 30 is disposed.
22 The aperture 26 has a vertical slot with two parallel
23 horizontal slots on each end of the vertical slot in an
24 opposite orientation to the slots 12 on each of the
25 pales 2. The fixing unit 30 has a vertical side 48
26 with two horizontal sides 50, 52 disposed on each end
27 of the vertical side 48 and also has a joining portion
28 28 joining the two horizontal sides 50, 52 to form a
29 complete hollow rectangle. The joining portion 28 is
30 attached after location of the fixing unit 30 through
31 the aperture 26. The end of the rail 4 can then be
32 slotted within the rectangle of the fixing unit 30 and
33 a slot 54 in the rail 4 corresponds to a bolt receiving
34 slot 56 in the joining portion 28 such that the rail 4
35 can be bolted to the fixing unit 30. A further rail 4
36 is attached to the other side of the fixing unit 30 on

1 the other side of the post 8. This is shown in Fig 5.

2

3 Alternatively, referring to Fig 6, the fixing unit 30
4 has two vertical sides 48,49 joining the two horizontal
5 sides 50,52 to form a complete rectangle. The end of
6 the rail 4 can be fitted over the rectangle of the
7 fixing unit 30, and the slot 54 in the rail 4
8 corresponds to a bolt receiving slot 57 in the vertical
9 side 49, such that the rail 4 can be bolted to the
10 fixing unit 30. Again, a further rail 4 is attached to
11 the other side of the fixing unit 30 on the other side
12 of the post 8.

13

14 When assembling the fencing system 1, a number of pales
15 2 are threaded onto two rails 4 with or without spacer
16 units 6 between the pales 2. The pales 2 are bolted to
17 the rails 4 for positioning purposes. The rails 4 are
18 then fixed at each end to the fixing unit 30 attached
19 to the posts 8 and thereafter the pales 2 cannot be
20 removed from the rails 4. Due to the fixing unit 30,
21 no fixing bolts are visible from the front 46 of the
22 fencing system 1. The side walls 14, 16 of the pales 2
23 add to the strength of each pale 2 as well as allowing
24 the rails 4 to pass through the pales 2.

25

26 Once assembled the fencing system 1 is secure due to
27 the fact that the pales 2 cannot be moved along the
28 rails 4 or away from the rails 4 due to their
29 attachment. The fixing unit 30 fixing the rails 4 to
30 the posts 8 are also secure with no visible fixing at
31 the front of the fencing system 1.

32

33 Improvements and modifications can be made to the
34 aforementioned without departing from the scope of the
35 present invention.

36

CLAIMS

1. A fencing system comprising a plurality of pales and at least one rail, each pale having an aperture through which a rail passes.
2. A fencing system as claimed in Claim 1 which has two rails disposed approximately at right angles to the pales.
3. A fencing system as claimed in Claim 1 or Claim 2 wherein the rails are supported by posts.
4. A fencing system as claimed in any preceding Claim wherein the aperture of each pale has two parallel slots joined by an orthogonal slot.
5. A fencing system as claimed in any preceding Claim wherein each pale has two parallel sides.
6. A fencing system as claimed in Claim 5 wherein each side has corresponding apertures.
7. A fencing system as claim in any preceding Claim wherein the pales are positioned on the rails by securing means.
8. A fencing system as claimed in Claim 7 wherein spacer units are located on the rails between pales.
9. A fencing system as claim in any of Claims 3 - 8 wherein the rails are secured to a fixing unit, said fixing unit being inserted through apertures in the posts.

- 1 10. A fencing system as claimed in any of Claims 3 -9
2 wherein securement of the rails to the posts is at
3 the rear of the system.
4
- 5 11. A fencing system substantially as herein before
6 described with reference to the accompanying
7 drawings.
8

Relevant Technical Fields

(i) UK Cl (Ed.N) E1D DLCKM DLCKN DLEKMNV DLEKN

(ii) Int Cl (Ed.6) E04H

Search Examiner
J D CANTRELL

Date of completion of Search
22 AUGUST 1995

Databases (see below)

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

Documents considered relevant following a search in respect of Claims :-
1-11

(ii)

Categories of documents

X: Document indicating lack of novelty or of inventive step.

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Y: Document indicating lack of inventive step if combined with one or more other documents of the same category.

E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.

A: Document indicating technological background and/or state of the art.

&: Member of the same patent family; corresponding document.

Category	Identity of document and relevant passages	Relevant to claim(s)
X	US 3988009 (MANN)	1-3, 5
X	US 3892056 (MANN)	1-3, 5
X	US 3892387 (MANN)	1-3, 5, 8

Databases:The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).